REMARKS

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-67 are pending in this application. Claims 46-55 are withdrawn from further consideration as being drawn to a nonelected invention. New claims 66 and 67 have been added.

Response To Rejections Of Specification And Drawings

The abstract has been amended in line 4 to delete the scientific word "said" which has been replaced with "the".

Regarding the drawings, the Examiner has objected that reference numeral 171 does not appear in the drawings. The drawings are correct, and it is the specification that is incorrect. We have therefore amended page 12 at line 20 to delete reference numeral 171 and to replace it with reference numeral 169. Accordingly, withdrawal of the drawing rejection is respectfully requested.

Also in the specification, page 9 has been amended at line 35 to add the word "into" following "fluids".

Response To Claim Objections And Rejections Under 35 Usc § 112

The Examiner has made some general objections to the claims in paragraphs 5 and 6 of the Office Action, and a number of specific 112 objections in paragraphs 7 and 8 of the Action.

Responsive to the paragraph 5 and 6 objections, claim 29 has been amended to delete "of any" from line 1, and claim 42 has been amended to replace "A" with "The".

With respect to the 112 objections, the following amendments have been made. Claim 20 has been amended to depend from claim 18 and to replace "resilient member" with "means to bias". The antecedent for means to bias is found in claim 18.

Claim 27 has been amended to refer to the "drive" head assembly. Claim 28 has been amended to depend from claim 30 so that there is an antecedent for "said driven gear".

The Examiner has objected to claim 31 on the basis that "said first and second bearing hubs" lack antecedent basis. To overcome this objection, claim 29, which claim 31 depends from, has been amended to depend from claim 21 where antecedents for the hubs can be found.

The Examiner has objected to claims 36 to 40 on the basis that the claims from which these claims depend do not refer to "The stuffing box". In response, claims 35 to 40 have been amended to ultimately depend from claim 34, which is the independent claim directed to the stuffing box per se.

Finally, the Examiner has objected to claim 43 as failing to particularly point out and distinctly claim the subject matter of the invention of this claim. In response, claim 43 has been amended to more clearly define and distinctly claim this aspect of the invention.

Response to Claim Rejections Under 35 USC § 102

The Examiner has rejected claims 1 to 6, 34 and 36 and 41 as allegedly being anticipated by U.S. Patent No. 5,823,541 to Dietle. With respect to claim 1, the Examiner argues that Dietle discloses in Figure 2 a drive head assembly 103 for use to fluid sealingly rotate rod 107 extending down a well that comprises a rotatabe sleeve 119 adapted to concentrically receive a portion of the rod 107, a means 139 for drivingly connecting the sleeve 119 to the rod 107 and a prime mover drivingly connected to the sleeve 119 for rotation.

Independent claim 1 has been amended to more clearly define applicant's invention. Amended claim 1 defines a drive head assembly for use to fluid sealingly rotate a rod extending down

a well, comprising a rotatable sleeve adapted to concentrically receive a portion of said rod therethrough, a prime mover drivingly connected to said sleeve for rotation thereof so that rotation of said sleeve causes rotation of said rod, and means for drivingly connecting said sleeve to the rod. As thus amended, it is submitted that claim 1 patentably distinguishes over Dietle.

Dietle does disclose a drive head assembly 103 that rotatingly and sealingly rotates rod 107 but by means of a direct drive coupling between the drive head 103 and rod 107, which is in accordance with the prior art. Dietle also discloses that a portion of rod 107 extends through a wear sleeve 119 that is drivingly connected to rod 107 by a drive coupling 139 which has a tang 137 received within a slot formed in sleeve 119. Dietle does not disclose or suggest a drive head in which the drive head's motor rotates the sleeve and the sleeve drives the rotation of the polished rod.

This becomes apparent when it is realized that the basic configuration of Dietle's drive head is a conventional prior art device with drive head 103 aligned axially directly above polished rod 107 and the conventional stuffing box 5 located at the bottom of the assembly. Dietle is therefore teaching fully away from the present invention. Specifically, Dietle couples rod 107 directly to drive head 103. The rod is then drivingly connected to sleeve 119 so that the sleeve rotates with the rod, the sleeve supporting bearings 115 and 116, which maintain the sleeve in spaced annular relationship to rod 107. The applicant, in complete contrast, has recognized that using the motor to rotate sleeve 80, and then using sleeve 80 to drive the rotation of polished rod 26 allows the stuffing box to be located adjacent the top of the polished rod where it can be

readily accessed for service without having to remove the drive head itself. Accordingly, the skilled artisan considering Dietle would be taught away from the present invention.

In view of the foregoing, it is respectfully submitted that the subject matter of amended claim 1 is clearly not anticipated in view of Dietle, and withdrawal of the rejection is requested.

Claims 2 to 6 were also rejected as being anticipated by Dietle. However, these claims now depend from what is believed to be an allowable independent claim, and should therefore be allowable in their own right.

The Examiner also relied on Dietle in the rejection of independent claim 34. The Examiner argues that Dietle discloses a rotatable rod 107 extending from the well bore, with the stuffing box seen at the bottom of yoke 101 sealing the end of the rod. The stuffing box comprises a first fluid passageway 125 disposed concentrically around at least a portion of the rod passing through the stuffing box, and a second fluid passageway 47 is disposed inside the first passageway 125 and is in fluid communication with well head pressure during normal operations. The first and second passageways are in fluid communication with one another and have seal means 127 disposed between them to maintain a pressure differential. Means 135 are provided for maintaining the fluid pressure in the first passageway in excess of wellhead pressure to prevent leakage.

The rejection of claim 34 is respectively traversed. Dietle does not teach first and second fluid passageways in fluid communication with one another. The Examiner refers to first fluid passageway 125, but this is not a passageway at all, but rather a sealed chamber within seal carrier 122 used to contain lubricating fluid for the roller bearings. Moreover, the pressure in chamber 125 is taught by Dietle to be <u>less</u> than

wellhead pressure, and the purpose of seals 21 and 27 in the embodiment of Figure 1 and seals 121 and 127 in the embodiment of Figure 2 is to keep out well fluids so that the bearings and seals are not subjected to the deteriorating effects of the well fluids which include sand, dirt and other abrasive elements. Reference is made in this regard to column 5, lines 38 to 67, column 6 between lines 1 and 20 and also column 11, between lines 30 and 46. Thus, passageway 125 is simply sealed and must be actually isolated from wellhead pressure during normal operations.

Moreover, the means 135 referred to by the Examiner for providing fluid pressure in the first passageway 125 in excess of wellhead pressure provides no such function. Means 135 is in fact a pressure sensor intended to detect an increase in pressure in sealed chamber 25 due to the incursion of well fluid and to then automatically shut down the drive head before damage to the bearings occurs. Reference is made in this regard to column 6, between lines 33 and 45.

Accordingly, and as will be appreciated, there is no teaching or even a suggestion in Dietle of a stuffing box having first and second concentrically arranged fluid passageways in fluid communication with one another and having a seal means disposed therebetween, and means to pressurize the fluid in the first passageway to a pressure in excess of wellhead pressure as recited in claim 34. Reconsideration of this rejection is therefore respectively urged. As claims 35 and 36 depend from claim 34 which is believed to distinguish over Dietle, these claims are submitted to be allowable.

Claim 41 was also rejected as being anticipated by Dietle. Claim 41 is similar in its subject matter to claims 1 and 34, and for the same reasons that those claims are believed to

distinguish over Dietle, claim 41 is similarly believed to distinguish over Dietle.

More specifically, claim 41 recites a tubular sleeve that is drivingly connected to the drive shaft of the drive motor, and means drivingly connecting the sleeve to the polished rod. Dietle discloses the opposite configuration, with the motor directly rotating the polished rod, and the polished rod rotating the sleeve. Moreover, claim 41 further recites a tubular standpipe concentrically mounted within the tubular sleeve to establish first and second tubular fluid passageways, with a fluid seal therebetween, and means for maintaining the fluid pressure in the first passageway greater than the fluid pressure in the second passageway. Again, there is no suggestion or teaching in Dietle of first or second passageways, and rather than disclosing a system for pressurizing one passageway, Dietle merely discloses a pressure sensor which can detect a rise in the fluid pressure in chamber 125 in response to a seal failure so that his drive head can be shut down before damage accrues. As will be appreciated, this is totally unlike the present invention as claimed in claim 41.

Claim 41 has been amended in its penultimate line to indicate that the polished rod is "received in" the standpipe, rather than being "mounted in" the standpipe. The amendment more correctly describes the relationship between the polished rod and the standpipe.

Claim 43 stands rejected as being anticipated by U.S. Patent No. 4,071,085 to Grable. The Examiner argues that Grable discloses in Figure 1 a drive head 11 for rotating a rod 22a in well 17. The drive head 11 has an upper end and a lower end 19. A stuffing box 21 is integrated into the upper end of the drive

head 11, which enables the stuffing box to be serviced without removing the drive head 11 from the well 17.

Claim 43, amended to more clearly define the invention, now defines a drive head for rotating a rod in a well, the drive head having a housing for fluid sealingly receiving said rod therethrough, said housing having a lower end and an upper openable end, the improvement comprising a stuffing box for said rod integrated into the upper end of the housing to enable said stuffing box to be serviced by opening said openable end of said housing without removing said drive head from the well. As thus amended, it is submitted that claim 43 patentably distinguishes over Grable.

Grable discloses a well flow control apparatus 10 located on top of a well 17. A stuffing box 21 is located above well flow control apparatus 10 and a polished rod 22 is received therethrough. It will be seen however from Grable at column 2, lines 32 to 50 that head 11 is not a drive head, but is simply a well head. Stuffing box 21 does seal polish rod 22a, but this is not a rotating rod, but rather a vertically reciprocating rod for the actuation of a downhole pump of the sort normally associated with horse head pumps. There is therefore no teaching or even a suggestion in Grable of a drive head for "rotating a rod, with the drive head itself including a housing having an upper and lower end, with the stuffing box being incorporated into the housing's upper end as now recited in amended claim 43. Nor is there any teaching or suggestion that the upper end of the drive head's housing is openable for servicing of the stuffing box. In view of these comments and the amendments to claim 43, reconsideration and withdrawal of the rejection is respectfully requested.

Claim 1 has been further rejected as being anticipated by U.S. Patent No. 6,113,355 to Hult. The Examiner argues that Figure 3 of Hult shows a drive head assembly 100 for use to fluid sealingly rotate a rod 118 extending down a well that comprises a rotatable sleeve 120 adapted to concentrically receive a portion of the rod 118, a means for drivingly connecting the sleeve 120 to the rod 118, and a prime mover drivingly connected to the sleeve 120 for rotation thereof.

Applicant respectfully disagrees with the characterization of Hult's teachings. In Hult, rod 118 is not in fact a polished rod at all. It is, rather, a main shaft that extends through body 104 of housing 102. Hult describes at column 4, lines 8 to 11, that it is the top of main shaft that is provided with a position to clamp onto polished rod 28. Main shaft 118 comprises an outer torque tube 120 and a liner tube 122, but no portion of the polished rod extends concentrically through the main shaft as claimed in claim 1 as amended. As will therefore be appreciated, claim 1 patentably distinguishes over Hult. As described above with respect to the discussion concerning Dietle, the sleeve is itself rotated by the prime mover, and the sleeve in turn rotates the polished rod which passes through the sleeve. This construction is completely unlike that taught in '355, which cannot therefore be said to anticipate the present invention as now claimed. Accordingly, favourable reconsideration of this rejection and its withdrawal is therefore respectfully urged.

Response to Claim Rejections Pursuant to 35 USC § 103

To establish a prima facie case of obviousness, three basic criteria must be met. There must be some suggestion or motivation from the references themselves or the knowledge

generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be in the prior art, and not on the applicants' disclosure. MPEP Section 2142. In addition, in determining the differences between the prior art and the claims, the question is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. MPEP Section 2141.02.

The Examiner has rejected claim 7 as being unpatentable over Dietle in view of Caraway. However, as claim 7 depends from claim 1 which is believed to be allowable for the reasons discussed above, this rejection appears to be moot. As discussed above, there is no teaching or suggestion in Dietle of an arrangement in which the prime mover rotates the sleeve, and the sleeve rotates the rod. There is no teaching or suggestion in Caraway that overcomes the deficiencies of Dietle in this respect, and it is submitted therefore that claim 7, when read with claim 1, clearly and patentably distinguishes over the combination of Dietle and Caraway.

The Examiner has further rejected claims 2 and 29 to 31 as being unpatentable over Dietle in view of Edwards, U.S. Patent No. 4,993,276. However, as claim 2 depends from claim 1, which is believed to distinguish over Dietle, this rejection too is believed to be moot. Specifically, Dietle does not disclose the use of a sleeve concentrically applied over a portion of the polished rod to cause rotation of the rod, and Edwards does not compensate for this deficiency.